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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/526,920	03/08/2005	David Antoine Christian Marie Roovers	NL 020831	7519
24737 7590 06/05/2007 PHILIPS INTELLECTUAL PROPERTY & STANDARDS P.O. BOX 3001 BRIARCLIFF MANOR, NY 10510				
			EXAMINER LAO, LUN S	
			ART UNIT 2615	PAPER NUMBER
			MAIL DATE 06/05/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/526,920

Applicant(s)

ROOVERS ET AL.

Examiner

Lun-See Lao

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Introduction

1. This action is response to the application 10/526,920 filed on 03-08-2005. Claims 1-6 are pending.

Content of Specification

2. Applicant is required to make correction so that the specification is compliance with MPEP Rules as set forth below:

- (a) Title of the Invention: See 37 CFR 1.72(a) and MPEP § 606. The title of the invention should be placed at the top of the first page of the specification unless the title is provided in an application data sheet. The title of the invention should be brief but technically accurate and descriptive, preferably from two to seven words may not contain more than 500 characters.
- (b) Cross-References to Related Applications: See 37 CFR 1.78 and MPEP § 201.11.
- (c) Statement Regarding Federally Sponsored Research and Development: See MPEP § 310.
- (d) The Names Of The Parties To A Joint Research Agreement: See 37 CFR 1.71(g).
- (e) Incorporation-By-Reference Of Material Submitted On a Compact Disc: The specification is required to include an incorporation-by-reference of electronic documents that are to become part of the permanent United States Patent and Trademark Office records in the file of a patent application. See 37 CFR 1.52(e) and MPEP § 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text were permitted as electronic documents on compact discs beginning on September 8, 2000.
- (f) Background of the Invention: See MPEP § 608.01(c). The specification should set forth the Background of the Invention in two parts:

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- (1) Field of the Invention: A statement of the field of art to which the invention pertains. This statement may include a paraphrasing of the applicable U.S. patent classification definitions of the subject matter of the claimed invention. This item may also be titled "Technical Field."
- (2) Description of the Related Art including information disclosed under 37 CFR 1.97 and 37 CFR 1.98: A description of the related art known to the applicant and including, if applicable, references to specific related art and problems involved in the prior art which are solved by the applicant's invention. This item may also be titled "Background Art."
- (g) Brief Summary of the Invention: See MPEP § 608.01(d). A brief summary or general statement of the invention as set forth in 37 CFR 1.73. The summary is separate and distinct from the abstract and is directed toward the invention rather than the disclosure as a whole. The summary may point out the advantages of the invention or how it solves problems previously existent in the prior art (and preferably indicated in the Background of the Invention). In chemical cases it should point out in general terms the utility of the invention. If possible, the nature and gist of the invention or the inventive concept should be set forth. Objects of the invention should be treated briefly and only to the extent that they contribute to an understanding of the invention.
- (h) Brief Description of the Several Views of the Drawing(s): See MPEP § 608.01(f). A reference to and brief description of the drawing(s) as set forth in 37 CFR 1.74.
- (i) Detailed Description of the Invention: See MPEP § 608.01(g). A description of the preferred embodiment(s) of the invention as required in 37 CFR 1.71. The description should be as short and specific as is necessary to describe the invention adequately and accurately. Where elements or groups of elements, compounds, and processes, which are conventional and generally widely known in the field of the invention described and their exact nature or type is not necessary for an understanding and use of the invention by a person skilled in the art, they should not be described in detail. However, where particularly complicated subject matter is involved or where the elements, compounds, or processes may not be commonly or widely known in the field, the specification should refer to another patent or readily available publication which adequately describes the subject matter.
- (j) Claim or Claims: See 37 CFR 1.75 and MPEP § 608.01(m). The claim or claims must commence on separate sheet or electronic page (37 CFR

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1.52(b)(3)). Where a claim sets forth a plurality of elements or steps, each element or step of the claim should be separated by a line indentation. There may be plural indentations to further segregate subcombinations or related steps. See 37 CFR 1.75 and MPEP § 608.01(i)-(p).

- (k) Abstract of the Disclosure: See MPEP § 608.01(f). A brief narrative of the disclosure as a whole in a single paragraph of 150 words or less commencing on a separate sheet following the claims. In an international application which has entered the national stage (37 CFR 1.491(b)), the applicant need not submit an abstract commencing on a separate sheet if an abstract was published with the international application under PCT Article 21. The abstract that appears on the cover page of the pamphlet published by the International Bureau (IB) of the World Intellectual Property Organization (WIPO) is the abstract that will be used by the USPTO. See MPEP § 1893.03(e).
- (l) Sequence Listing. See 37 CFR 1.821-1.825 and MPEP §§ 2421-2431. The requirement for a sequence listing applies to all sequences disclosed in a given application, whether the sequences are claimed or not. See MPEP § 2421.02.

Priority

3. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in 10/526,920 on 03-08-2005. It is noted, however, that applicant has not filed a certified copy of the EPO 0207870.1 filed on 09-13-2002 application as required by 35 U.S.C. 119(b).

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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5. Claims 1 and 4-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Miller (US PAT. 5,029,215).

Consider claim 1 Miller teaches a method of calibrating a first microphone and a second microphone, comprising

an acquisition step in which a first input audio signal is acquired by means of the first microphone (see fig.4 (201)) and a second input audio signal is acquired by means of the second microphone (202); a calibration step in which a first sensitivity of the first microphone (201) and a second sensitivity of the second microphone (202) is determined, characterized in that in the calibration step an algorithm is applied which enables determination of the sensitivities, in the absence of a loudspeaker (203) for generating the input audio signals (by microcomputer and see col. 4 line 31-col. 5 line 5).

Consider claim 5 it is essentially similar to claim 1 and rejected for the reason stated above apropos to claim 1.

Consider claim 6 it is essentially similar to claim 1 and rejected for the reason stated above apropos to claim 1.

Consider claim 4 Miller teach an apparatus comprising a first microphone (see fig.4 (201)) and a second microphone (202) for acquiring a first and a second input audio signal respectively, and a processor (412) for determining a first sensitivity of the first microphone (201) and a second sensitivity of the second microphone (202), characterized in that the processor is able to determine the sensitivities, in the absence

of a loudspeaker (203) for generating the input audio signals (by microcomputer and see col. 4 line 31-col. 5 line 5).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 2-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller (US PAT. 5,029,215) in view of Rasmusson (US PAT. 6,549,627).

Consider claim 2 Miller does not clearly teach that the first and the second input audio signal are processed by an adaptive beamforming filter, and the sensitivities are determined by performing a calculation with weights of the adaptive beamforming filter.

However, Rasmusson teaches that that the first and the second input audio signal (see fig.5 (405,407)) are processed by an adaptive beamforming filter (417), and the sensitivities are determined by performing a calculation with weights of the adaptive beamforming filter (417 and see col. 5 lines 8-63).

Therefore, it would have been obvious that automatic calibrating apparatus as taught by Miller could have used the adaptive beamforming filter so that the microphone could have been calibration accurately.

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Consider claim 3 Miller and Rasmusson do not clearly teach a method of calibrating a first and a second microphone of characterized in that the algorithm

comprises calculating $\sqrt{\frac{1}{L} \sum_{K=0}^{L-1} |W^{\circ}(\Omega_k)|^2}$, in which W° is the discrete Fourier transform of the weights of the beamforming filter after adaptation, and the sum ranges over a predetermined number L of frequencies Ω_k .

However, the calculation of the weight equation $\sqrt{\frac{1}{L} \sum_{K=0}^{L-1} |W^{\circ}(\Omega_k)|^2}$ is well known in the art (the official notice is taken); since Miller and Rasmusson don't limit what of equation have to be for calculating the weight of the beamforming filter.

Therefore, it would have been obvious that automatic calibrating apparatus as taught by Miller and Rasmusson could have used the equation $\sqrt{\frac{1}{L} \sum_{K=0}^{L-1} |W^{\circ}(\Omega_k)|^2}$ as claimed to calculate the weight of the beamforming filter so that the automatic calibration system could have reduced the noise more accurately.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Elko (US PAT. 6,041,127) discloses the adaptive beamform filter to show other related CALIBRATINGA FIRST AND SECOND MICROPHONE.

9. Any response to this action should be mailed to:

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Mail Stop ____ (explanation, e.g., Amendment or After-final, etc.)

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Facsimile responses should be faxed to:
(571) 273-8300


Hand-delivered responses should be brought to:
Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lao, Lun-See whose telephone number is (571) 272-7501. The examiner can normally be reached on Monday-Friday from 8:00 to 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chin Vivian, can be reached on (571) 272-7848.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 whose telephone number is (571) 272-2600.

Lao, Lun-See *L.S.*
Patent Examiner
US Patent and Trademark Office
Knox
571-272-7501
Date 05-17-2007


VIVIAN CHIN
SUPERVISOR, PATENT EXAMINER
TECHNOLOGY CENTER 2600

5/29/07